

## CONTENTS

### NEWS

The three-day novel  
— page 3

Black History Month —  
page 3

The Pratesi project  
— page 7

CERES noted by EU  
— page 8

Mowat Centre opens  
— page 8

### RESEARCH NEWS

Magnesium aids  
memory  
— page 3

Plants know quantum  
mechanics — page 3

BOOKS— page 9

EVENTS — page 11

### FORUM

Why astronomy matters  
— page 12

### CALL FOR PARTICIPATION GOVERNING COUNCIL ELECTIONS

Administrative  
staff can vote for  
representation on  
Governing Council from  
March 1 to March 12.  
For more information,  
visit the elections  
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## FINE CHINA



The Varsity Blues women's hockey team put up a good fight against the Chinese women's Olympic hockey team but couldn't sustain the pressure, losing 7-2 in a demonstration game Feb 3. at Varsity Arena.

## APPLICATIONS TO U OF T RISING

BY LAURIE STEPHENS

**U of T is seeing** a dramatic rise in the number of Ontario high school students choosing U of T as their first choice for post-secondary education, even while other large universities are experiencing declines.

Almost 1,000 more applicants listed the University of Toronto as their first choice for the 2010-11 academic year, an increase of eight per cent over last year's figures and the largest increase since 2003.

Professor Cheryl Misak, vice-president and provost, credits the increase in part to improved outreach to prospective students in the months leading up to their decision to choose a university, including a targeted marketing campaign with extensive research to understand how top high school students choose universities, followed by

two years of online advertising.

"We've made a really serious effort over the last couple of years to get our story out," Misak said, Jan. 26. "We've completely redesigned the viewbook and the website (<http://discover.utoronto.ca/home.htm>) and we've put up some wonderful and quite moving video clips of students and faculty members talking about their experiences at University of Toronto. I encourage everyone to take a look at them: <http://www.thisisuft.utoronto.ca/u-of-t-video-gallery.htm>.

A number of U of T faculties experienced impressive growth in first-choice applications, including physical education and health (29 per cent), arts and science (11 per cent), applied science and engineering (11 per cent) and U of T

... APPLICATIONS ON PAGE 4

## Graduate student survey in progress

BY ELAINE SMITH

**Twenty minutes** of your time — if you're a graduate student — could make a difference.

A mere one-third of an hour is all the time it takes to complete the 2010 Graduate and Professional Student Survey, a survey that will give U of T administrators an indication of how well the university is meeting your educational, professional, financial support and student life needs.

"The survey results tell us how we're doing, what we need to think about and what we need to change," said Professor

**Brian Corman**, vice-provost (graduate studies) and dean of the School of Graduate Studies. "The more student participation we have, the more likely we are to get good information."

The survey will be live online from Feb. 8 to March 8, administered by Mosaic Research Solutions, a Canadian firm. A letter from President **David Naylor** and Corman will invite U of T students to participate. Each student will receive a personal PIN number allowing access to the survey. Anyone who takes part will be entered into a draw for one of 12 U of T Bookstore gift certificates.

... GRADUATE ON PAGE 4

## Physicians on course to assist at Olympics

JOHNNY GUATTO

BY JENNIFER LANTHIER

**When the** Olympic Games begin next month, all eyes will be on athletes such as University of Toronto alumna **Heather Moyse** of Canada's bobsleigh team.

But several physicians from the university's David L. Mackintosh Clinic will also be at the games — and they'll be watching for more than medal-winning performances.

"Bobsleighs are very loud," said Dr. **Ian Cohen**. "When they crash it's like a freight train — you hear it before you see it."

Cohen is deputy medical supervisor for the Whistler Sliding Centre, where the skeleton, bobsleigh and luge competitions will take place.

"The ideal scenario is that everyone makes it down the track safely," Cohen said. "But the reality is that there's never been an event where crashes didn't occur."

Cohen attended last year's World Cup event at the sliding centre as part of an effort to prepare for the Olympics. Despite reassurances from locals that no one had ever crashed on the upper part of the track, one athlete did so during the competition, suffering a lacerated liver and spleen, fractured rib and concussion.

"It was terrible for her," Cohen said. "But that World Cup event was helpful for us — it taught us a lot."

During the Olympics, medical staff will be stationed in four places along the track, including at the top. The team, which includes surgeons and EMS workers, will have access to a clinic equipped to deal with everything from cuts to resuscitations.

Cohen was eager to go where his skills could be most useful and the sliding centre fit the bill. He'd like to bring back photographs, which would be "helpful from instructional point of view."

Cohen expects to see skin burns, common when athletes clad in thin Lycra suits crash or fall off a sled. But concussion and other brain injuries are of greater concern. Before the Games begin, the medical team will practise what Cohen calls "extractions" — the art of removing a patient's helmet after an accident without damaging the neck or spine. As physician for Varsity Blues teams such as hockey and football, that's something he knows a lot about.

But in Whistler, the medical workers will have to execute these manoeuvres while standing on an icy slope.

Dr. **Julia Alleyne** will also

... PHYSICIANS ON PAGE 4



## LETTER FROM THE EDITOR

### Computer technology...

is so much a part of everyday life in the 21st century that we take it for granted. Think for a moment about our reactions if we can't access our office e-mail due to server problems. In today's world, it's woven into the fabric of life in such a way that we view it as an essential service.

This issue of *the Bulletin* illustrates our reliance on computers in a variety of ways. The School of Graduate Studies is surveying the university's graduate student population — online, of course (see page 1). Ten years ago, they probably would have used a paper survey form but data collection and analysis is now much more streamlined.

Emerging novelist **Mark Sedore**, winner of the International Three-Day Novel Contest (see page 3), pounded out 40,000 words on his laptop during the course of a long weekend. Somehow, it's hard to imagine creating the same volume of copy in the same time frame using a typewriter, electric and self-correcting or not.

Technology can also play a crucial role in foreign aid, as our tech community has proved during the aftermath of the Haitian earthquake. Our story on page 6 illustrates how tech-savvy folks can make a contribution that is every bit as valuable as the hands-on medical aid other U of T volunteers can provide.

And as a medium for archiving and accessibility, it is outstanding, as Victoria College's **Anne Urbancic** found during a 12-year project to transcribe and translate the letters of Italian writer Mario Pratesi (page 7). Pratesi fans worldwide will be able to access his correspondence easily, thanks to the wonders of the Internet.

You'll also find that breaking news at U of T is now available via Twitter ([www.twitter.com/UofTNewsUpdate](http://www.twitter.com/UofTNewsUpdate)), a service that allows us to alert the U of T community each time we add a news story to our online collection. It's our online version of the town crier, notifying anyone whose windows are open.

So, next time you encounter a software glitch or a hardware failure that makes you want to shake your machine, remember the upside. Faster, more accessible communication, data collection, archiving and aid — not a bad tradeoff.

Cheers,

*Elaine*

**Elaine Smith,**  
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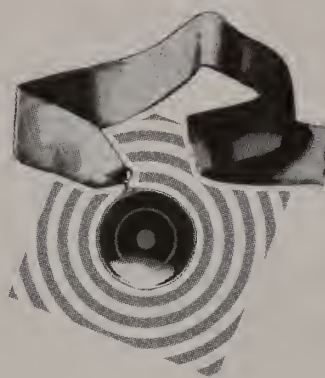
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### FACULTY OF APPLIED SCIENCE & ENGINEERING

Professors **Levente Diosady** of chemical engineering and applied chemistry, **Andrew Goldenberg**, **Javad Mostaghimi** and **Chul Park** of mechanical and industrial engineering and **Konstantinos Plataniotis** of electrical and computer engineering will be honoured by the Engineering Institute of Canada Feb. 27 at the institute's annual awards banquet in Ottawa. Diosady will receive the K.Y. Lo Medal, given for significant engineering contributions at the international level, while Park will receive the Julian C. Smith Medal, awarded for achievement in the development of Canada. Goldenberg, Mostaghimi and Plataniotis will be inducted as fellows of the institute for their exceptional contributions to Canadian engineering.

### FACULTY OF MEDICINE

**Professor Helen Batty** of family and community medicine has been selected to receive the 2010 Canadian Association for Medical Education Ian Hart Award. Established in 1992 in honour of Hart, founder of the association, this award recognizes senior faculty who have made an exceptional contribution to medical education throughout their academic careers. Batty will receive the award at the association's annual luncheon during the Canadian Conference on Medical Education, being held May 2 to 4 in St. John's, Nfld.

**Professor Abdallah Daar** of the Dalla Lana School of Public Health has been elected founding chair of the Global Alliance for Chronic Diseases. The alliance was created in June 2009 by six of the world's foremost health agencies, collectively managing an estimated 80 per cent of all public health research funding, to collaborate in the critical battle against chronic non-communicable diseases

## AWARDS & HONOURS

(CNCDS): cardiovascular diseases (mainly heart disease and stroke), several cancers, chronic respiratory conditions and type 2 diabetes. CNCDS account for 60 per cent of all deaths worldwide, of which 80 per cent occur in low- and middle-income countries, an area where the alliance will focus.

**Professor Emeritus Laszlo Endreny** of pharmacology and toxicology received an honorary doctorate Nov. 6 from Semmelweis University in Budapest, Hungary, in recognition of his contributions to the design and evolution of enzyme and pharmacokinetic investigations and to methodologies for the determination of bioequivalence. Endreny was one of 12 distinguished professors honoured for long-time collaboration with Semmelweis University. The event also marked the 240th anniversary of the founding of the forerunner to Semmelweis University, the medical faculty of the University of Trnava in Slovakia.

**Professor Richard Weisel** of surgery is the eighth winner of the American Association for Thoracic Surgery Scientific Achievement Award. Established in 1994, the award honours individuals who have achieved scientific contributions in the field of thoracic surgery worthy of the highest recognition the association can bestow. Weisel is being recognized by the association for his pioneering work in myocyte culture and transplantation, his ability to elucidate the molecular events of myocardial ischemia-reperfusion injury and his efforts to embrace and bring molecular biology into clinical cardiac surgery practice. Weisel will receive the award during the annual meeting May 1 to 5 in Toronto.

### U OF T SCARBOROUGH

**Professor Emeritus Ian Ross Robertson** of history is the 2009 recipient of the Prince Edward Island Museum and Heritage Foundation's Award of Honour. The most prestigious award offered by the museum, the prize is given in recognition of an outstanding contribution to the preservation of the heritage of Prince Edward Island Museum. Robertson has been publishing scholarly material regarding the history of Prince Edward Island since the early 1970s.

COMPILED BY AILSA FERGUSON

## NSERC strategic network grant elevates Canadian industries

BY JENNIFER HSU

A microcellular and nanocellular plastics group led by Professor **Chul Park** of mechanical and industrial engineering and Canada Research Chair in microcellular plastics has received a \$5 million grant from the Natural Sciences and Engineering Research Council of Canada (NSERC) to develop innovative plastic materials that could give numerous Canadian industries a global competitive edge.

"We're delighted to have NSERC's Network for Innovative Plastic Materials and Manufacturing Processes (NIPMMP) based at U of T," said Professor **Peter Lewis**, interim vice-president (research). "The network will foster improvements in our nation's economy and quality of life."

Over the last decade, Canadian plastic manufacturers have reduced their in-house research and development due to economic setbacks. NIPMMP proposes to remedy this decline

in R&D with a comprehensive set of research initiatives into both the scientific and technological aspects of plastic materials and related manufacturing processes.

The network, led by Park, will receive a \$1-million boost for five years through NSERC's Strategic Research Networks program.

Collaborative in nature, the network brings together 23 researchers from 11 Canadian universities and one national institute and works closely with 20 Canadian industrial partners to address the nation's diverse plastic

requirements. Through Park's leadership, the network plans to develop a wide range of novel polymer materials and technologies that will make Canada a prominent innovator in original plastic products and related manufacturing processes.

Not only will the network produce commodities that are lightweight, high strength, low density, versatile, environmentally friendly and cost effective, it will also train a total of 51 highly qualified personnel, including 25 PhD students, six master's students, 16 undergraduates, and four post-doctoral fellows.

### Archaeologists at work

Stop in and get a handle on the work and world of archaeology at the University of Toronto.

Friday,  
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# U of T faculty join Order of Ontario

BY AILSA FERGUSON

**Seven faculty** members are among the 29 outstanding Ontarians named to the Order of Ontario, the province's highest honour, recognizing those who have made an outstanding contribution to society in Ontario and around the world.

Professor **Philip Berger** of family and community medicine is being honoured as a physician and leader in the fields of urban medicine, addiction, homelessness and HIV/AIDS care. An internationally renowned clinical oncologist, Professor **Helen Chan** of pediatrics is cited for her breakthrough treatment of retinoblastoma in children, a rare cancer of the eyes.

A leader in the field of food process engineering, Professor **Levente Diosady** of chemical engineering and applied chemistry is being recognized for his celebrated development of a technique to combat iodine deficiency and anemia that has benefitted millions around the world.

Professor **Kellie Leitch** of surgery is being recognized for her contributions as a pediatric orthopedic surgeon and a national voice for children's health in Canada. Professor **Samantha Nutt** of family and community medicine, executive director and co-founder of War Child Canada, has gained international recognition as a leader in humanitarian assistance to vulnerable populations in conflict zones.

A physician, scientist and internationally renowned humanitarian, Professor **James Orbinski** of the Dalla Lana School of Public Health and family and community medicine, a senior fellow at the Munk Centre for International Studies, is being celebrated as a founding member of Médecins Sans Frontières/Doctors Without Borders and other international organizations aimed at improving global health care.

Professor Emeritus **Mladen Vranic** of physiology, a physician-scientist and world leader in diabetes research, is lauded as a pioneer in the development of tracer methods that demonstrated the importance of exercise and of beneficial stresses in preventing the development of diabetes.

As well **Lawrence Bloomberg**, after whom the Lawrence S. Bloomberg Faculty of Nursing is named, is cited as a businessman noted for his volunteerism and philanthropic contributions to health care, commercializing innovation and education in Ontario.

Created in 1986, the order recognizes the highest level of individual excellence and achievement in any field. Individuals are nominated by members of the public and an advisory council then recommends the most outstanding nominees. The lieutenant-governor is the chancellor of the order as well as a member. Lieutenant-Governor David Onley bestowed the honour at a ceremony Jan. 28 at Queen's Park.



Mark Sedore's novel, *Snowmen*, will be published in August.

## U of T staffer wins novel-writing contest

BY ELAINE SMITH

**Spending Labour** Day weekend at the cottage wasn't a vacation getaway for **Mark Sedore**; it was a chance to go on a writing binge — a productive writing binge.

Sedore's three full days sequestered at a cottage resulted in a 40,000-word novel and first prize in the annual International 3-Day Novel Contest. It's a victory worth celebrating for Sedore, a writer in the president's office who uses his skills during the work week to draft position papers and speeches.

He has been writing creatively for years, most often in the science fiction genre. However, in two tries at writing general fiction for the International 3-Day

Novel Contest, he has earned a second place finish and top prize. (A third effort, science-fiction based, won him an honourable mention.)

"Science fiction is what I had always written until last year but maybe I should stick with straight fiction," he said.

Sedore's novel, *Snowmen*, is about a man struggling to complete a record-setting trip across the Arctic Circle while his brother attempts to sabotage him. As the contest winner, he will have the novel edited by a professional, published in August by 3-Day Books and distributed by Arsenal Press. He will also do some book promotion in various parts of Canada.

"I've never had anything published before, so it will be pretty cool," he said.

He's understandably delighted by the result but Sedore also enjoyed the experience. Previously, he had written alone. This year, he and the other three members of his writing group holed up in a cottage to write, write, write.

"I was afraid it would be distracting," said Sedore, "but it was very supportive."

His fellow writers were early risers, while he is a night owl, so they pushed each other to write at times they might not ordinarily do so.

"Everyone had a laptop and the weather was great, so we did a lot of writing outside," he said. "We moved all over the place."

However, there wasn't much time to do anything but write and sleep — a swim on Sunday cost Sedore too much time away from the computer, so it was something he didn't repeat.

**Doug Ullrich**, a member of the writing group who works at the Ontario Institute for Studies in Education, was a newcomer to the competition but he's ready to take part again.

"Knowing someone who has had some success made it seem possible," he said. "I liked the fact that you were able to prove yourself to yourself and beat your own tendencies towards procrastination. It was quite a journey."

**Teresa Partridge** of laboratory medicine and pathobiology was thrilled for her writing colleague.

"It seems really significant that we were all there," she said. "It's not my work, but I'm really proud of it, proud of him and proud that it's going to be out there."

She said the experience was intense but she was able to feed off the environment.

"It's intense and fun," agreed Sedore. "For anyone who finds it hard to get started or to produce, it's really a good way to force yourself. And win or lose, you get feedback."

## Phys ed faculty celebrates Black History Month

BY JENNIFER LANTHIER

**In Zambia** he is known as the father of pediatric medicine but Chifumbe Chinton is hardly a household name in Canada — and that made the U of T alumnus a great fit for Black History Month.

"What is important is to document and tell our stories," said Rosemary Sadlier, president of the Ontario Black History Society. "Our stories are buried and they're not always about politicians or inventors."

Sadler made the comments at the Feb. 4 unveiling of a special exhibit celebrating Black History Month at the Faculty of Physical Education and Health. Throughout the month, the Athletic Centre will display a series of posters detailing the accomplishments of black athletes from the 1960s to the present.

"This is about reclaiming athletics in a positive way and showing how regular people can be role models through exceptional effort," Sadler said.

Margarett Best, Ontario minister of health promotion, praised the efforts of staff member **Desmond Miller**, who conceived the idea for the exhibit and carried out the research.

Chinton, who came to U of T from Rhodesia on a scholarship, received his medical degree from the university in 1966. He competed for the U of T track team and was captain of the medical soccer team in 1964.

"They call him the father of pediatric medicine in Zambia and he's still a professor in the school of medicine at the University of Zambia," Miller said. "He's one of the valued academics I found who were able to take their sporting careers and go beyond that to contribute to physical education and sport and health."

In addition to Chinton, Miller selected Harry Jerome to represent the 1960s. Jerome is shown in a photo from the British Empire Games in 1962. Profiles of athletes from subsequent decades will be unveiled each

week, Miller said, and posted on the faculty website.

"I'm so pleased to be able to celebrate the achievements of black athletes here at the University of Toronto, in

Canada and across the world," said Kidd, dean of the faculty.

"We applaud what you've done in such a short time, putting together such a creative display."



Margarett Best, Ontario's minister of health promotion (left), Rosemary Sadlier of the Ontario Black History Society and U of T staff member Desmond Miller open the Black History Month exhibition at the Athletic Centre.



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Tuesday, February 9  
Theories of the Lyric

Wednesday, February 10  
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Thursday, February 11  
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4:30 p.m., Room 140, University College  
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Members of the faculty, staff, students and the public are cordially invited.

## Physicians on course to assist at Olympics

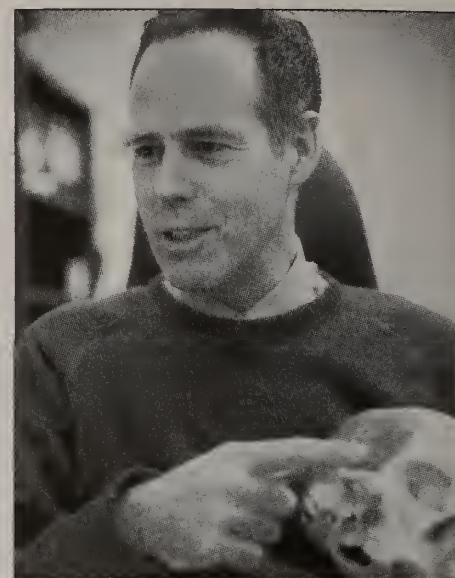
CONTINUED FROM PAGE 1  
accompany Skate Canada to Vancouver as team physician, a position she's held for more than a decade. And the clinic's Dr. **Mark Leung** will also be at the sliding centre. He'll be part of a team looking after spectators — providing first aid and emergency care.

"I just completed my Sports Medicine Fellowship training at the University of Toronto in June 2009," said Leung. "I'm honoured to have this opportunity so soon to represent my country."

Leung, who travelled with Team Canada women's

basketball to Cuba and China last summer as team physician, expects to use mostly his primary care skills.

"We'll be managing local and international spectators with issues ranging from the common cold, dizziness and chest tightness to being acutely aware of early signs of frostbite, cardiac events, stroke, pneumonia and the H1N1 flu," Leung said.



Dr. Ian Cohen

DIANA MCNALLY

## APPLICATIONS TO U OF T RISING

CONTINUED FROM PAGE 1  
Mississauga (nine per cent).

Recently, the Council of Ontario Universities reported that high school students are applying to Ontario universities in ever-increasing numbers, continuing a 10-year trend.

According to statistics compiled by the Ontario

Universities' Application Centre following the Jan. 13 application deadline, the number of high school applicants rose 2.7 per cent to 86,542 from 84,300 last year.

However, much of the increase this year can be attributed to a greater number of applicants to smaller universities

in Ontario. U of T is a notable exception to this new paradigm.

"It's great to see our outreach efforts start to make a difference," Misak said. "We're particularly pleased to see the jump in numbers of students naming the University of Toronto as their first choice."

## Graduate student survey in progress

CONTINUED FROM PAGE 1

**Marny Scully**, executive director of policy and analysis for the Division of University Relations, said U of T has participated in the survey, which is administered at universities across Canada, twice previously: in 2005 and 2007. This year, for the first time, there are two versions of the questionnaire to allow for more targeted responses: one is designed for doctoral-stream students, the other for those in

professional programs, a change that was made in response to concerns raised by U of T.

Universities across Ontario and many others nationwide take part in the GPSS. The data give each university a basis for comparison. Results from the study will be analysed this summer, compared with other universities and distributed to faculties, reported to Governing Council and published as part of the university's annual

performance indicators report.

Results from the previous versions of the survey have led to projects that aim to improve the student experience, Corman noted, such as the popular programming at the Grad Room and the overflowing graduate professional skills program.

"This is the most important resource we have to learn what students think about our graduate programs," he said. "I'm eager to see the results."

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# Researchers cast light on how stem cells ‘make decisions’

BY PAUL CANTIN

**Researchers at U of T** are part of an international collaboration that has shed new light on how stem cells “decide” what kinds of cells to become, opening up new opportunities for regenerative medicine such as cell-based therapies and even potential cancer treatments.

In a paper published Feb. 5 in *Cell Stem Cell*, Professor **William Stanford** of biomedical engineering, Canada Research Chair in stem cell bioengineering and functional genomics, and his collaborators found that a protein originally discovered in fruit flies called Polycomb-like 2 (PCL2) plays a critical role in mouse embryonic stem cell “decision-making.”

Stem cells are undifferentiated cells that have the unique ability to divide and generate more stem cells as well as generate differentiated, specialized progeny. Human pluripotent stem cells such as induced pluripotent stem (iPS) cells and embryonic stem cells (or ES cells) have the ability to differentiate or specialize into

all cell types of an adult. These cells have immense potential for regenerative medicine such as cell-based therapies. Not surprisingly, there is a lot of interest in what controls the stem cell decisions — the decision to become or stay a stem cell or differentiate into a specialized cell such as a blood cell, for example.

“If scientists can understand these normal decisions, they hope to influence those decisions to treat disease, such as making more blood cells to treat anemia or influencing the stem cells to become pancreatic beta cells to treat diabetes,” said Stanford. “In fact, we think that what researchers learn from ES cells can be applied to adult stem cells such as blood stem cells. After all, blood stem cells are similar in nature to ES cells — blood stem cells have the ability to divide to make more blood stem cells and all the cells of the blood system.”

When the PCL2 protein was removed from mouse ES cells these stem cells could no longer differentiate into the specialized cells, remaining stem cells

even under conditions that should push the PCL2 mutant ES cells into neurons, muscle or even liver cells. In fact, the inability of the PCL2 mutant stem cells to differentiate into specialized cells is reminiscent of cancer cells. The lead author in this study, **Emily Walker**, a Stanford lab graduate student, found that she could rescue the ability of the mutant ES cells to differentiate by re-expressing PCL2 in these cells.

Next, the Stanford group analysed all the genes regulated by PCL2 and drafted a regulatory or network map, the equivalent to a computer circuit. In fact, the regulatory network not only explains how PCL2 controls stem cell decisions but explains how stem cells can respond so quickly to signals that allow the stem cells to specialize into the more than 200 cells of our body. The regulatory network also shows that PCL2 controls many cancer-causing genes, which has Stanford and Walker excited about the possibility that PCL2 could be an important new player in the war on cancer.

# Magnesium can enhance memory

BY PAUL CANTIN

**U of T researchers** are part of an international study that suggests magnesium may hold the key to improving memory.

The research, published by Cell Press in the Jan. 28 issue of the journal *Neuron*, finds that an increase in brain magnesium improves learning and memory in young and old rats. The study suggests that increasing magnesium intake is a valid strategy to enhance cognitive abilities and supports speculation that inadequate levels of magnesium impair cognitive function, leading to faster deterioration of memory in aging humans.

“Diet can have a significant impact on cognitive capacity. Identification of dietary factors that have a positive influence on synapses — connections for communication between neurons — might help to enhance learning and memory and prevent their decline with age and disease,” said Professor **Min Zhuo** of physiology, who collaborated on the research.

Professor Guosong Liu, director of the Center for Learning

and Memory at Tsinghua University in Beijing, China, led a study examining whether increased levels of one such dietary supplement, magnesium, boosts brain power.

“Magnesium is essential for the proper functioning of many tissues in the body, including the brain, and in an earlier study we demonstrated that magnesium promoted synaptic plasticity in cultured brain cells,” Liu explained. “Therefore it was tempting to take our studies a step further and investigate whether an increase in brain magnesium levels enhanced cognitive function in animals.”

Because it is difficult to boost brain magnesium levels with traditional oral supplements, Liu and colleagues developed a new magnesium compound, magnesium-L-threonate (MgT), that could significantly increase magnesium in the brain via dietary supplementation. They used MgT to increase magnesium in rats of different ages and then looked for behavioural and cellular changes associated with memory.

“We found that increased brain magnesium enhanced many different forms of learn-

ing and memory in both young and aged rats,” said Liu. A close examination of cellular changes associated with memory revealed an increase in the number of functional synapses, activation of key signalling molecules and an enhancement of short- and long-term synaptic processes that are crucial for learning and memory.

“It is important to point out that the control rats in this study had a normal diet which is widely accepted to contain a sufficient amount of magnesium,” Liu said. “The effects we observed were due to elevation of magnesium to levels higher than provided by a normal diet. Therefore, our findings suggest that elevating brain magnesium content via increasing magnesium intake might be a useful new strategy to enhance cognitive abilities. Moreover, half the population of industrialized countries has a magnesium deficit, which increases with aging. This may very well contribute to age-dependent memory decline; increasing magnesium intake might prevent or reduce such decline.”

The international collaboration on this research includes participation from U of T, Tsinghua University, Howard Hughes Medical Institute, Massachusetts Institute of Technology and Tel Aviv University.

# Scientists find quantum mechanics at work in photosynthesis



**Cryptophyte algae from the ocean (species Rhodomonas).** These remarkable algae are single cells about nine microns long. They can swim and harness the sun’s energy to produce food. And they seem to know something about quantum mechanics. In this picture, a normal microscope image is superimposed with a fluorescence map that reveals the location of the photosynthetic machinery inside each alga.

BY SEAN BETTAM

**A team** of U of T chemists have made a major contribution to the emerging field of quantum biology, observing quantum mechanics at work in photosynthesis in marine algae.

“There’s been a lot of excitement and speculation that nature may be using quantum mechanical practices,” said chemistry professor **Greg Scholes**, lead author of a new study published this week in *Nature*. “Our latest experiments show that normally functioning biological systems have the capacity to use quantum mechanics in order to optimize a process as essential to their survival as photosynthesis.”

Special proteins called light-harvesting complexes are used in photosynthesis to capture sunlight and funnel its energy to nature’s solar cells — other proteins known as reaction centres. Scholes and his colleagues isolated light-harvesting complexes from two different species of marine algae and studied their function under natural temperature conditions using a sophisticated laser experiment known as two-dimensional electronic spectroscopy.

“We stimulated the proteins with femtosecond laser pulses to mimic the absorption of sunlight,” Scholes explained. “This enabled us to monitor the subsequent processes, including the movement of energy between special molecules

bound in the protein, against a stop-clock. We were astonished to find clear evidence of long-lived quantum mechanical states involved in moving the energy. Our result suggests that the energy of absorbed light resides in two places at once — a quantum superposition state, or coherence — and such a state lies at the heart of quantum mechanical theory.

“This and other recent discoveries have captured the attention of researchers for several reasons,” said Scholes. “First, it means that quantum mechanical probability laws can prevail over the classical laws of kinetics in this complex biological system, even at normal temperatures. The energy can thereby flow efficiently by — counterintuitively — traversing several alternative paths through the antenna proteins simultaneously. It also raises some other potentially fascinating questions, such as, have these organisms developed quantum-mechanical strategies for light-harvesting to gain an evolutionary advantage? It suggests that algae knew about quantum mechanics nearly two billion years before humans.”

Scholes’ colleagues in the research at U of T were **Elisabetta Collins**, **Cathy Wong** and **Paul Brumer**. Other team members were Paul Curmi and Krystyna Wilk of the University of New South Wales.



# UTM DEAN CURATES A ‘REPOSITORY OF SOULS’

BY BRUCE GILLESPIE

For six months last year, Professor **Gage Averill**, University of Toronto Mississauga vice-principal (academic) and dean, led a second life, curating a collection of the oldest recordings of Haitian music and ceremonies ever made. “Starting in January, I’d spend half the day with my headphones on at my laptop, immersed in the Haiti of 70 years ago, and the rest of the time, I was reading spreadsheets and sitting through meetings, doing the dean thing,” he said. The result of those long hours is

Alan Lomax in Haiti, a 10-disc box set of audio and video released in November, which has garnered major media attention around the world and delighted fans of Caribbean music and scholars alike. The recordings were made by Lomax, who became one of the 20th century’s foremost collectors of folk music. In 1936, at the age of 21, he accepted a commission from the Library of Congress to visit Haiti and record the music he found there. It was a time of social upheaval for the country, which was grappling with widespread poverty and the challenges of independence

following 15 years of American occupation. According to Averill, an ethnomusicologist who specializes in Caribbean music, Lomax never talked much about his time in Haiti on his return and his recordings were lost until a researcher working in Lomax’s archives stumbled on the collection of aluminum discs 10 years ago. Averill started his work with the 1,500 separate recordings at about the same time, having them digitally restored and preparing them for release. Unfortunately, the project’s funding fell through and it sat in limbo until early 2009 when Harte Recordings

signed a deal to release the recordings as a high-end box set and asked Averill to curate it. Averill’s job was to listen to all of the recordings — more than 50 hours of sound and six films — and decide which were of high enough acoustic and esthetic quality to release. He then had to decide how to compile the recordings in a way that made sense to listeners and go through Lomax’s field notes, logs and diaries to prepare lyric translations, as well as notes for each disc and the collection as a whole. Although Averill and his co-translator, Louis Carl St. Jean, are both fluent in Creole, he said there were some cases when they had to enlist the aid of “old heads,” Haitian elders who are considered culturally rich. “We’d be calling them and playing these recordings over the phone and they were having really interesting reactions,” he said. “They’d say, No one has sung that song here in 50 years, I can’t believe you have this recorded. No one plays like that any more.” Averill said Lomax was a voracious listener, so it’s no surprise the box set includes a wide range of music, from children’s songs and Catholic canticles to classical compositions and an indigenized style of Caribbean troubadour. “There were also old French ballads from the 17th century that persisted in Haiti about

medieval themes,” said Averill. “It’s bizarre to listen to a group of old men in a small town in southern Haiti sing songs about jailed knights and the visits of damsels to their jailhouses. It’s amazing what Lomax heard.” The collection also includes film of a rare religious ceremony that hasn’t been conducted in 20 or 30 years, since ceremonies involving becoming possessed or making sacrifices have been outlawed. Averill said it’s these sorts of rare recordings that he hopes will captivate anyone interested in Caribbean music and culture. Of all the potential audiences who may hear and see the collection, though, Averill is most interested in getting the recordings to Haitians themselves. Once, while working on the project, he had a chance to play some of the recordings for American dancer and writer Katherine Dunham, who did work in Haiti around the same time as Lomax. “A comment she made about carrying around a repository of souls in these recordings sparked some thinking about this ethical obligation to guard well the creative product of a disappeared generation,” he said. To that end, Averill plans to repatriate the collection in Haiti in 2010, thanks to support from the Clinton Global Initiative and the Green Family Foundation.



Professor Gage Averill spent hours listening to Haitian music of 70 years ago as he prepared an audio and video collection for public release.

## CrisisCamp participants offer technical assistance to Haiti

BY JENNIFER LANTHIER

Fundraisers and memorials helped, but staff and students — including undergraduates haunted by images of the devastation back home — wanted to do more to aid Haiti. Enter CrisisCamp Haiti — Toronto. The day-long event held on the St. George campus Jan. 30 brought together dozens of students, staff and volunteers from across Toronto eager to work behind the scenes to support aid groups and non-governmental organizations working in Haiti. CrisisCommons, the online grassroots movement behind the CrisisCamps, is driven by technology and communications specialists but anyone can volunteer. “I’m not a particularly tech-savvy person,” said engineering undergraduate **Sean Yamana**. “All the things I’m working on, I didn’t really know about them until two weeks ago.” Hunkered down in seminar rooms donated by the university and armed with nothing more than laptops, netbooks, cellphones and stacks of pizza,

volunteers tackled a range of projects. Hardcore developers joined CrisisCampers across the globe, testing and refining a computer program aimed at allowing people in Haiti to translate between English, French and Creole. Yamana, who had already started volunteering with CrisisCommons on his own time, continued to work on the Haiti RSS feed — a project the United Nations asked CrisisCommons to handle. “We’re trying to synthesize all the different forms of information, news feeds, twitter posts and combine them into a single news resource that aid agencies can look at,” Yamana said. First-year arts and science students **Sarah Taluy** and **Alexa Masucci**, who hail from Haiti, worked on a project to collect, edit and post Haitians’ accounts of their experiences (<http://www.haitianstories.org/>). They also helped volunteers who were testing the translation program, confirming or correcting the computer’s attempts at Creole. “We’d had a bunch of events and we raised money

but I kept saying, ‘I wish I was back in Haiti,’” said Masucci, 17. “With this, I actually felt like I was a part of something — and it was fun.” “I feel like I helped a little,” agreed Taluy. “I was working on the Haitian stories project, e-mailing people in Haiti, or people with family in Haiti, helping them share their stories and experience.” **David Black**, co-ordinator of emergency response planning for the university, arranged for U of T to host the camp, after seeing a CrisisCommons tweet about the need for space. Black also helped spread word about the event to students. “This was really a perfect fit for the university,” Black said. “A lot of students want to help but can’t afford to help financially and this is a very real way to help. It’s also an excellent way for our students to meet people, network — maybe discover jobs they didn’t even know existed, or find a mentor.” Yamana agreed. He and several friends from engineering were excited to discover they were working alongside

the chief executive officer of an Internet imaging company whose services they used. CrisisCamp co-ordinator Heather Leson said there will be more camps in Toronto but in the meantime, Yamana and other volunteers continue to contribute virtually. Given CrisisCommons’ communications and technology focus, it’s not surprising that video clips of the Toronto camp and updates on its

projects are easily accessible online, along with information about how to volunteer. (<http://left-button.com/crisiscampto>). Taluy and Masucci hope more students, staff and faculty will volunteer at the next camp. “My Mom and my sister were evacuated to Montreal, so I’m hoping to go see them,” Taluy said. “But if the next camp happens when I’m in Toronto, I will definitely go.”

## Law students raise aid funds

BY LUCIANNA CICCOCIOPPO

Like everyone else in the world, U of T law students saw the graphic images of earthquake-ravaged Haiti and Haitians and were moved. So moved, in fact, that they banded together and organized two events that raised more than \$7,000 in aid. Feast of Haiti had 30 student volunteers baking and organizing a lunch-time sale that pulled in \$3,200 — and about 300 hungry and willing donors, said **Isaac Tang**, the Students’ Law

Society president. “We had great feedback from students and faculty; people were very generous with their donations,” said Tang. “I was quite surprised that we exceeded our goal of \$2,750 by a healthy margin.” Two Maple Leaf platinum hockey tickets, generously donated by Goodmans LLP, were raffled off as well, with 160 tickets sold, which helped bump up the final tally of donations, said Tang. Panago Pizza also donated

• • • CONTINUED on next page



# Pratesi papers preserved for digital world

BY JENNIFER LANTHIER

**With a few** keystrokes, scholars from around the world can now access more than 1,600 papers belonging to the 19th-century Italian writer Mario Pratesi.

And all it took was 12 years of “literary forensics” and collaboration by university students, staff, faculty and alumni.

“I’m always looking for new challenges in teaching and research,” said **Anne Urbancic**, a senior lecturer and fellow at Victoria College. “And for the students, it was just a fantastic opportunity — you could call it literary forensics.”

Pratesi, a prolific writer of novels, short stories and newspaper articles, exchanged letters with an impressive array of writers, musicians and politicians in his day. But since his death in 1921, his name slowly faded. Pratesi’s papers had been stored “higgledy-piggledy” at the house of a descendant in Toronto, before being given to Special Collections at E.J. Pratt Library.

“When I saw them, I thought, This is an incredible treasure,” Urbancic said. “I put together a team of undergraduate students from the 299Y and 399Y [undergraduate research] courses and I took six students to Florence with me for several weeks.”

The scope of the project was enormous — analyse, transcribe and index every scrap of paper, then design and build a website to allow researchers access to the original documents and the transcriptions.

Former student Antoniette

Cofini remembers how exciting it was as a second-year student to work directly with Urbancic.

“Through reading, transcribing and editing the many letters, I learned the personalities of several literary figures,” Cofini said. As a 399Y student, she accompanied Urbancic to Italy to continue her research.

“Imagine doing research in the archives of the Biblioteca Nazionale Centrale in Florence, Italy, birthplace of Dante Alighieri,” Cofini said. “The trip allowed the ultimate connection, unparalleled in a classroom environment; history became alive as I gained a tremendous sense of the soul, history and culture.”

“I applied for and was awarded a SSHRC grant when the donor had found first 200 and then 600 letters,” said Urbancic. “But she kept finding more letters until we had 1,600; understandably the funding ran out so I asked for volunteers to come forward.”

Help came from unusual sources.

“Two senior alumni women scanned the documents — and scanned and scanned,” Urbancic said. “Their help was invaluable.”

Many undergraduates in applied sciences and engineering, required by their faculty to log 600 hours of volunteer work, also turned out and used their technical expertise to build a database. But their enthusiasm spread to the documents themselves, leading to unexpected insights.

“These were students who

knew nothing about Italian or Pratesi,” said Urbancic. “We would look at a word and think, It should be this, but they had no expectations, no assumptions and many times they were absolutely right.”

Even high school students helped — with one student stumbling on an interesting find.

“We’d read the letter several times but this student picked up on something and it turned out the letter writer was alluding to a book she’d written,” Urbancic said. “An important book on music theory but published under a pseudonym because she was a woman.”

Pratesi’s correspondents include the positivist philosopher Giacomo Barzellotti, Italian prime minister Sidney Sonnino and English writers such as Violet Paget (also known as Vernon Lee).

Brock University professor Carmela Colella, an expert in digital humanities, worked tirelessly over the years to bring the research online, Urbancic said. And in 2006, Pratt librarian **Douglas Fox** got involved, recommending an enriched document model for the website, instead of a web-enabled database.

“This enables the scholars to be completely in control of their own material, in a fairly low-tech manner,” Fox said. “With the interface we used, scholars can re-index the site themselves, and transfer new material easily to the site.”

Fox and web designer **Abraham Lam** worked “incred-



Fans of Italian writer Mario Pratesi (pictured in the photograph) can now access more than 1,600 of his papers online, thanks to a 12-year effort by Victoria College’s Anne Urbancic with help from librarian Douglas Fox.

ible hours to make it as pretty as it is, and as researcher-friendly,” Urbancic said. Researchers can now view the original documents

and search the data by sender, recipient, theme, key word or date at [www.pratesi.vicu.utoronto.ca](http://www.pratesi.vicu.utoronto.ca).

## Develop your knowledge of international development

BY FRANCIS MASSÉ

**U of T at Scarborough** holds its International Development and Culture Week Feb. 9 to 11 to raise awareness of international issues and highlight diversity and culture.

The week-long celebration features displays, movies, cultural events and lectures.

CONTINUED from previous page  
some pizzas to the event, which was co-ordinated by first-year students **Justin Nasseri**, **Atrisha Lewis** and **Ryan MacIsaac**.

Funds were donated to Oxfam Canada for Haitian relief efforts.

“It was quite touching to see students from all three years come together at a busy time and make so much food,” said Nasseri. “It was actually crazy how much food we had!”

An evening event at a local bar, Tattoo Rock Parlour, raised another \$4,000, with cover payments by U of T law students and friends going to Haitian

UTSC’s participation coincides with other development events being celebrated across the country with the support of the Canadian International Development Agency (CIDA). While in keeping with the theme of the week, UTSC has also broadened the event to also include cultural themes. Partners in organiz-

relief via the charity Partners in Health, a grassroots organization doing medical work in Haiti.

“We chose Partners in Health for their excellent track record, transparency of operations and large contingent of local employees,” said **Amy Benkard Rose**, who organized the event with fellow student **Michelle Folliott**.

“The dance party was an idea that we came up with in an effort to do something fun that would draw in as many people as possible,” said Rose.

And draw it did. About 650 people attended from U of T and beyond.

ing the week’s events are the International Students Centre, the Department of Student Life, the arts & sciences co-op office, the sustainability office, the Scarborough Campus Students’ Union and various campus clubs.

“The diversity and scope of cultures on this campus is a point of pride for us and we’re celebrating that diversity with a wide range of events,” said **Joanna Ying**, co-ordinator of international students and study abroad programs at UTSC. “The inclusive nature of the activities means that there is literally something for everyone.”

Fair trade, global sustainability and global health are among the international development issues that will be celebrated, along with UTSC’s diverse cultures.

“We have one of the best and most high-profile international development studies programs in the country and so these activities are a great way to celebrate that,” said **Katie**

**Boomgaardt**, the program co-ordinator. “We also want to provide some education on development issues since some students may come from countries where, for instance, concepts like fair trade are not yet well known, if at all.”

**Liz Lymburner**, a second-year IDS co-op student who is helping to organize the week’s events, said it is valuable because it helps students understand “how UTSC is connected to the greater community.”

The event kicks off Feb. 9 at noon with simultaneous talks and activities at the Student Centre and the Meeting Place. There will be games like Jeopardy and giant Scrabble (on a huge projector screen) focusing on development themes, plus a photo exhibition.

Each afternoon at 3 p.m. UTSC’s local chapter of World University Service of Canada will host a movie related to development and culture in the Student Centre as part of the WUSC Hollywood Film Festival.

Two fairs take place on Feb. 10. The Student Centre will house the Clubs Fair, which highlights the range and activities of student clubs and associations related to international development and culture. Simultaneously, the International Development and Culture Fair and Faculty Showcase will include displays by organizations such as Free the Children, UNICEF and the International Development Research Centre. Featured as part of this fair, Simon Carter of the International Development Research Centre, program manager for climate change adaptation in Africa, will discuss climate change and food security.

Events wrap up on Feb. 11 with a Lunar New Year celebration, including the spectacular Lion Dance at noon and traditional Chinese New Year’s foods.

*Francis Massé is a fifth-year student in the International Development Studies program at the University of Toronto Scarborough.*



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## CERES an EU Centre of Excellence

BY SEAN BETTAM

**The Centre for European, Russian and Eurasian Studies (CERES)** has been designated a European Union (EU) Centre of Excellence for another three years, further cementing its reputation as one of North America's leading sites for the study of the member countries of the European Union, the former Soviet Union and central and eastern Europe.

"I'm absolutely thrilled that the European Commission has continued to recognize the excellence of the faculty and students at the University of Toronto and the crucial support provided by the university for EU studies on campus," said CERES director **Jeffrey Kopstein**. "This support will allow us to continue to deepen our knowledge of European

integration and provide our students with increased mobility to Europe and access to leading European scholars."

The designation recognizes CERES for the second consecutive time as a focal point for the study of the nations that make up the European Union.

"The fact that CERES has achieved this designation since its inception indicates that our research and teaching have been judged by our peers to be of the highest quality," said Kopstein. It comes with funding of 500,000 euros (approximately \$740,000 Cdn) over a three-year period. This will enable the centre to continue to provide faculty members as well as graduate and undergraduate students with a variety of research opportunities across Europe and elsewhere.

"The EU Centre of

Excellence designation includes us in a small network of elite sites both nationally and internationally that are noted for their first-rate research and teaching on European integration," said Kopstein. "The broader project of European integration is complex and not always understood or appreciated by Canadians.

"For example, most Canadians don't realize that there are now fewer barriers to trade within Europe than there are inter-provincial barriers within Canada. The purpose of our centre as part of a network of centres is to educate our students and the broader public about the changing nature of Europe. The changing nature of European integration has changed the way we think of our own federation."

## Premier helps to officially open U of T's Mowat Centre

BY ELAINE SMITH

**Premier Dalton McGuinty** was the guest of honour Jan. 25 at the launch of the University of Toronto's new Mowat Centre for Policy Innovation.

The Mowat Centre, established in 2009 with \$5 million in seed funding from the provincial government, is an independent, non-partisan public policy research centre located at U of T's School of Public Policy and Governance. Its mandate is to propose innovative, research-driven public policy recommendations that work on behalf of all Canadians, including Ontarians. Its work will be designed to engage and encourage collaboration between public and private sectors, social innovators and government, with a strong and prosperous Ontario as its focus.

After an introduction by **Judith Wolfson**, U of T's vice-president (university relations), the premier praised the new centre and its mission.

"This is an exciting new think-tank based in Ontario and offering an Ontario perspective," said McGuinty.

McGuinty referred to the centre's inspiration, Oliver Mowat, Ontario's longest serving premier and a Father of Confederation.

"I share with Mowat the belief that a strong Ontario is necessary for a strong Canada," he said. "Mowat knew that strong federal and provincial governments were not necessarily mutually exclusive."

He commended the centre's founding director, **Matthew Mendelsohn**, his former deputy minister for intergovernmental affairs, who also worked for the Democratic Renewal Secretariat and

the Office of International Relations and Protocol, noting, "I take consolation in knowing he is still working hard for Ontarians."

"I'm proud to say that in Canada in the arena of new ideas we have a new champion: the Mowat Centre. I welcome it as force for good."

Mendelsohn is dedicated to ensuring the centre's success in influencing policy. The centre's first major project will be the formation of a Commission on Modernizing Canada's System of Support for the Unemployed, to be launched in February in 2010.

"Solutions are better when they take advantage of a diversity of opinion," he said, "and better when they are animated by the new Ontario realities."

"We can build a new Canadian institution that will help us reanimate the social contract and a policy architecture for the 21st century."

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## BOOKS

**Eastern Sentiments: Yi T'aejun**, translated by Janet Poole (Columbia University Press; 208 pages; \$45 US). The Confucian gentleman scholars of the Choson dynasty (1392-1910) often published short anecdotes exemplifying their values and esthetic concerns. In modern Seoul one scholar in particular would excel at adapting this style to a contemporary readership: Yi T'aejun. The essays in this collection reflect Yi's distinct voice and lyrical expression, revealing thoughts on a variety of subjects, from gardens to immigrant villages in Manchuria, from antiques to colonial assimilation and from fishing to the recovery of Korea's past.

**Faith and Fantasy in the Renaissance: Texts, Images and Religious Practices**, edited by Olga Zorzi Pugliese and Ethan Matt Kavaler (Centre for Reformation and Renaissance Studies; 360 pages; \$37). This collection of 19 essays by international scholars explores how religion permeates most facets of personal and cultural life during the early modern period and, more particularly, how religious passion quickens the creative imagination and how the creative imaginative arts, language and images in turn make religious faith come alive.

**Some Measure of Justice: The Holocaust Era Restitution Campaign of the 1990s**, by Michael R. Marrus (University of Wisconsin Press; 206 pages;



\$29.95 US). During the 1990s claimants and their lawyers sought to rectify terrible wrongs committed more than a half-century earlier. This book explores this most recent wave of justice-seeking for the Holocaust: what it has been, why it emerged when it did, how it fits with earlier reparation, its significance for this historical representation of the Holocaust and its implications for justice-seeking in our time.

**Gravity Shift: How Asia's New Economic Powerhouses Will Shape the 21st Century**, by Wendy Dobson (U of T Press; 224 pages; \$35). The rapid growth, diversity and strategic importance of the emerging Chinese and Indian economies have fired the world's imagination with both hopes and fears for the future. This perceptive analysis of changing institutions, demographics and politics paints a thoughtful and surprising picture of India and China as economic powerhouses in 2030. Examining past events and current trends, it offers bold predictions of the changes we can expect in key economic and political institutions in China and India, changes that will inform and shape tomorrow's business decisions.

**The Letters of Robert Grosseteste, Bishop of London**, translated with introduction and

annotation by F.A.C Mantello and Joseph Goering (U of T Press; 608 pages; \$135). Robert Grosseteste (c. 1170-1253) was an English statesman, philosopher, theologian and bishop of Lincoln and also one of the most controversial figures in his country's episcopate. This volume contains the first complete translation of Grosseteste's collected Latin letters and shows that these were most likely chosen and arranged by Grosseteste himself. Shedding light on some of the period's crucial debates on issues of theology, law, pastoral care and Episcopal authority, this richly annotated English translation makes his letters more accessible than ever.

**On the Comic and Laughter**, by Vladimir Propp, edited and translated by Jean-Patrick Debbèche and Paul Perron (U of T Press; 224 pages; \$45). Vladimir Propp (1895-1970) was one of the foremost literary critics and folklore specialists of the 20th century. His groundbreaking *The Morphology of Folktale* profoundly influenced numerous disciplines in the humanities and social sciences worldwide. In *On the Comic and Laughter*, Propp provides a comprehensive and systematic analysis of the functions and purposes of the comic and humour. This lucid translation not only sheds light on comedy and literature but also on the history of 20th-century criticism.

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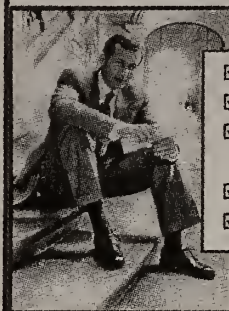
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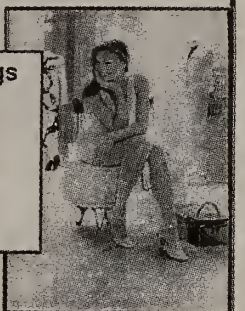
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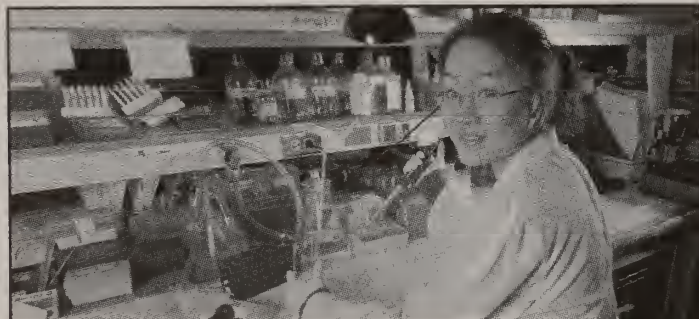
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**Feeling anxious, stressed or depressed?** Relationship or self-esteem concerns? Want someone to talk with, to help sort things out? Dr. Ellen Greenberg, Psychologist, Bloor & Avenue Road or Eglinton West Subway, 416-944-3799. Covered by extended health.

**Dr. Neil Pilkington (Psychologist).** Assessment and individual, couples and group cognitive-behaviour therapy for: anxiety/phobias, depression/low self-esteem, stress and anger management, couples issues and sexual identity/orientation concerns. Staff/faculty healthcare benefits provide full coverage. Morning, afternoon and evening appointments. Downtown/TTC. 416-977-5666. E-mail [dr.neil.pilkington@rogers.com](mailto:dr.neil.pilkington@rogers.com)

**Psychotherapy for personal and relationship issues.** Individual, group and couple therapy. U of T extended health plan provides coverage. For a consultation call Dr. Heather A. White, Psychologist, 416-535-9432, 140 Albany Avenue (Bathurst/Bloor). [drhwhite@rogers.com](mailto:drhwhite@rogers.com)

**Evelyn Sommers, Ph.D., Psychologist,** provides psychotherapy and counselling for individuals and couples from age 17. Covered under U of T benefits. Yonge/Bloor. Visit [www.ekslibris.ca](http://www.ekslibris.ca); call 416-413-1098.

**Individual psychotherapy for adults.** Evening hours available. Extended benefits coverage for U of T staff. Dr. Paula Gardner, Registered Psychologist, 114 Maitland St. (Wellesley and Jarvis). 416-570-2957.

**Psychoanalysis & psychoanalytic psychotherapy** for adolescents, adults, couples. U of T extended health benefits provide coverage. Dr. Klaus Wiedermann, Registered Psychologist, 1033 Bay St., ste. 204, tel: 416-962-6671.

**Dr. Cindy Wahler, Registered Psychologist.** Yonge/St. Clair area. Individual and couple psychotherapy. Depression, relationship difficulties, women's issues, health issues, self-esteem. U of T extended healthcare plan covers psychological services. 416-961-0899. [cwahler@sympatico.ca](mailto:cwahler@sympatico.ca)

**Dr. Carol Musselman, Registered Psychologist.** Psychotherapy for depression, anxiety, trauma and other mental health needs, relationship problems, issues related to gender, sexual orientation, disability. Covered by extended health plans. 455 Spadina (at College), #211. 416-568-1100 or [cmusselman@oise.utoronto.ca](mailto:cmusselman@oise.utoronto.ca); [www.carolmusselman.com](http://www.carolmusselman.com)

**Sam Minsky, PhD (Registered Psychologist).** Individual and couple psychotherapy and counselling covered under U of T extended health plan. Close to downtown campus. 647-209-9516. [sam.minsky@sympatico.ca](mailto:sam.minsky@sympatico.ca)

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## Miscellany

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## LECTURES

### A Blossom Like No Other: Li Qingzhao

**Thursday, February 11**

Prof. Wei Djao, Walden University, Minneapolis, Minn. 160 Arts & Administration Building, U of T Scarborough. 1 p.m. *Global Asia Studies*

### Masculinity and Homophobia Across Time and Space: Anatomy of a Prejudice.

**Thursday, February 11**

Prof. David Murray, York University. Social Sciences Building, U of T Scarborough. 3:15 to 5:15 p.m. *Ethnography, UTSC*

### Undoing Time and the Syntax of the Dream Interlude.

**Thursday, February 11**

Prof. Elliot Wolfson, New York University; Scholars Without Borders series. 1017 Wilson Hall, New College. 4 to 6 p.m. *Near & Middle Eastern Civilizations*

### Performativity and Performance.

**Thursday, February 11**

Prof. Jonathan Cullen, Cornell University; final Alexander lecture on Theory of the Lyric. 140 University College. 4:30 p.m. *University College and Jackman Humanities Institute*

### Current Approaches to Optimizing All Aspects of a Child's Development.

**Thursday, February 11**

Prof. Adele Diamond, University of British Columbia; 2010 Robbie Case memorial lecture. Auditorium, OISE, 252 Bloor St. W. 5:30 to 7:15 p.m. *OISE*

### The Expression of Profound Emotion: Sadness and Joy in the Emotional Communities of Colonial Mexico.

**Friday, February 12**

Prof. Jacqueline Holler, University of Northern British Columbia. 208N Munk Centre for International Studies. 2 to 4 p.m. Registration: webapp.mcis.toronto.ca. *Latin American Studies*

### Assyrians in the West: Recent Discoveries at Tell Tayinat on the Plain of Antioch.

**Wednesday, February 17**

Prof. Timothy Harrison, Near and Middle Eastern civilizations. 142 Earth Sciences Centre. 8 p.m. *Canadian Society for Mesopotamian Studies*

### From Environment to the Host: Lives of a Leptospiral Pathogen.

**Monday, February 22**

Prof. David Haake, University of California, Los Angeles. 237 FitzGerald Building. 10:30 a.m. *Dentistry*

### Now We See Now.

**Tuesday, February 23**

The Living (David Benjamin & Soo-in-Yang). Room 103, 230 College St. 6:30 p.m. *Architecture, Landscape & Design*

## COMMITTEES

### FACULTY OF ARTS & SCIENCE

External review committees have been established in the Faculty of Arts & Science to review the Centre for Quantum Information & Quantum Control Feb. 24 and the Centre for Aboriginal Initiatives and aboriginal studies program Feb. 25.

### Centre for Quantum Information & Quantum Control

Professors Stuart Rice, Department of Chemistry, University of Chicago; and John McDonald, Department of Physics, University of Alberta.

### Thutmose III at Abydos: The Archeology of Sacred Space at the Cult Centre of Osiris.

**Wednesday, February 24**

Prof. Mary-Ann Pouls Wegner, Near and Middle Eastern civilizations. 1170 Bahen Centre for Information Technology. 5:15 p.m. *Archaeological Institute of America, Toronto Society*

## COLLOQUIA

### Performing Amusing Physics: Magicians on Stage in 19th-Century Paris.

**Wednesday, February 10**

Prof. Sofie Lachapelle, University of Guelph. 323 Old Victoria College Building. 4 to 6 p.m. *History & Philosophy of Science & Technology*

## SEMINARS

### Transport and Energy Turmoil.

**Wednesday, February 10**

Richard Gilbert, consultant. Second floor, Faculty Club. 4:10 p.m. *Environment*

### End-of-Life Care: Where Are the Ethical Lines?

**Wednesday, February 10**

University Prof. Em. Wayne Sumner, philosophy. 754 Health Sciences Building. 4:30 p.m. *Joint Centre for Bioethics*

### Resilience in the Face of Climate Change and Peak Oil: Community- Building Responses for an Equitable Transition to a Low-Carbon Society.

**Thursday, February 11**

Prof. Blake Poland, Dalla Lana School of Public Health. 108 Health Sciences Building. 4:10 p.m. *Environment*

### An Economic Analysis of Routine Screening for HIV in People Over Age 55.

**Tuesday, February 16**

Prof. Ahmed Bayoumi, health policy, management and evaluation. Ste. 106, 222 College St. 12:15 to 1:30 p.m. *Life Course & Aging*

### Green Energy and Climate Change Politics: German- Canadian Contrasts, Conflict and Co-operative Potential.

**Monday, February 22**

Prof. Miranda Schreurs, Free University of Berlin. 208N Munk Centre for International Studies. Noon to 2 p.m. Registration: webapp.mcis.toronto.ca. *International Studies*

### Democracy, Accountability and Education.

**Monday, February 22**

Prof. Meira Levinson, Harvard University. 200 Gerald Larkin Building. 3 to 5 p.m. *Ethics*

### Nuclear Envelope Proteins at Chromosomal Domains Affecting Lifespan.

**Monday, February 22**

Prof. Karim Mekhail, laboratory medicine and pathobiology. 2172 Medical Sciences Building. 4 p.m. *Laboratory Medicine & Pathobiology*

### Reducing Age-Related Memory Deficits.

**Tuesday, February 23**

Prof. Jennifer Ryan, psychology. Ste.

106, 222 College St. 12:15 to 1:30 p.m. *Life Course & Aging*

### Energy Security in the Asia-Pacific Region: Beyond the Security of Supply.

**Tuesday, February 23**

Vlado Vivolda, research fellow, University of South Australia. 108N Munk Centre for International Studies. 1 to 3 p.m. *Asian Institute*

### Contextualization Considerations of Work and Family Roles and Well-Being.

**Wednesday, February 24**

Marisa Young, post-doctoral fellow, comparative program on health and society. 208N Munk Centre for International Studies. 10 a.m. to noon. Registration: webapp.mcis.toronto.ca. *Comparative Program on Health & Society*

## MUSIC

### FACULTY OF MUSIC EDWARD JOHNSON BUILDING Thursdays @ Noon.

**Thursday, February 11**

Opera a Casa: Mia Bach and Andrea Grant, piano; Anna Kolowski, flute. Walter Hall. 12:10 p.m.

### Angela Hewitt Piano Master Class.

**Thursday, February 11**

World renowned Canadian pianist Angela Hewitt; made possible by the generous support of the Canadian Friends of the Trasimeno Music Festival. Walter Hall. 3 to 5 p.m.

### Visitors Series.

**February 22**

Dawn Upshaw, John R. Stratton Visiting Artist, singer. Walter Hall. 7 to 9 p.m.

### VICTORIA COLLEGE Choirs in Concert.

**Friday, February 12**

A Celtic Valentine: University Women's Chorus, Lori-Anne Dolloff, conductor; Faculty of Music presentation. Chapel. Tickets \$14, students and seniors \$8.

### U OF T SCARBOROUGH Japanese Shakuhachi and Buddhism.

Debbie Danbrook, composer and recording artist; music performance and lecture series. 303 Art & Administration Building. 2 p.m. *Humanities, U of T Scarborough*

## PLAYS & READINGS

### Assassins.

**Wednesday to Saturday,**

**February 10 to February 13**

Music and lyrics by Stephen Sondheim, book by John Weidman. UC Follies presentation. Hart House Theatre. Performances at 8 p.m. Tickets \$20, students \$12. Box office: 416-978-8849 or www.uoftix.ca.

### Daffydill.

**Wednesday to Saturday,**

**February 17 to February 20**

Annual musical production organized by U of T's medical students; proceeds to the Canadian Cancer Society. Hart House Theatre. 8 p.m. Tickets \$22 in advance, \$25 at the door; students and seniors \$17 in advance, \$20 at the door. Box office: 416-978-8849 or www.uoftix.ca.

### String of Pearls.

**Tuesday to Saturday,**

**February 11 to February 13;**

### Tuesday to Saturday, February 23 to February 27

By Michelle Lowe; directed by Ralph Small. Theatre Erindale presentation. Erindale Studio Theatre, Communication, Culture & Technology Building, U of T Mississauga. Weekend performances, 8 p.m.; weeknights, 7:30 p.m. Saturday matinee (Feb. 27) 2 p.m. Tickets \$14, students and seniors \$9. Box office: 905-569-4369.

## FILMS

### The Far Side of the Moon.

**Tuesday, February 9**

Screening of *The Far Side of the Moon* by Robert Lepage, followed by a lecture by Peter Dickinson, Simon Fraser University, on Body Doubles: Adaptation & Queer Remediation in the Cinema of Robert Lepage; Harsh Light: Queer Stage-to-Screen Adaptations in Quebec & Canada series. Robert Gill Theatre, Koffler Student Services Centre. 6 to 9:15 p.m. *Graduate Centre for Study of Drama*

### Taras Bulba.

**Thursday, February 11**

Screening and panel discussion of *Taras Bulba* (2009); directed by Valdimir Bortko, English subtitles; Between a Rock and a Hard Place: Ukrainian Cinema Since Independence series. Innis Town Hall. 7 to 10 p.m. *European, Russian & Eurasian Studies, Petro Jacyk Program, Canadian Foundation for Ukrainian Studies and the Ukrainian Film Club, Columbia University*

### Birds of Paradise.

**Friday, February 12**

Screening and discussion of *Birds of Paradise* (2008) by Roman Balayan; English subtitles; Between a Rock and a Hard Place: Ukrainian Cinema Since Independence series. 108N Munk Centre for International Studies. 6 to 8 p.m. *European, Russian & Eurasian Studies, Petro Jacyk Program, Canadian Foundation for Ukrainian Studies and the Ukrainian Film Club, Columbia University*

## EXHIBITIONS

### DORIS MCCARTHY GALLERY U OF T SCARBOROUGH

### Jon Sasaki: Good Intentions.

**To February 24**

Utilizing film, video, objects, performance and installation, Jon Sasaki investigates an eternal optimism that, while being endearing and charming, is filled with the trappings of failure; co-presented with the Kitchener-Waterloo Art Gallery and Kenderdine Art Gallery. Gallery hours: Tuesday to Friday, 10 a.m. to 4 p.m.; Saturday and Sunday, noon to 5 p.m.

### BLACKWOOD GALLERY U OF T MISSISSAUGA

**Location! Location! Location!**

**To March 7**

Collaborative work by Christina Swintak and Don Miller. Gallery hours: Monday to Friday, 11 a.m. to 5 p.m.; Sunday 1 to 4 p.m.

### U OF T ART CENTRE Portrait of a Patron.

**To March 13**

The 60 to 70 works in this exhibition stem from the collection of Janusz Dukszta. Dukszta first commissioned a portrait of himself from Olaf van Brinkenhoff in 1953 and has repeated this exercise on a regular basis since that time. Laidlaw Wing, University College. Gallery hours: Tuesday to Friday, noon to 5 p.m.; Saturday, noon to 4 p.m.

### ROBARTS LIBRARY

**To March 14**

### Beyond the Words: Author Portraits by Carl Köhler.

Portraits of famous authors in oil and ink by the late Swedish artist Carl Köhler (1919-2006). Inspired by arts and literature, his work features James Joyce, Brendan Behan, Samuel Beckett, Jean Cocteau, Günter Grass, Henry Miller, Franz Kafka, Joyce Carol Oates, Virginia Woolf and others. First floor. Hours: Monday to Friday, 8:30 a.m. to 11 p.m.; Saturday, 9 a.m. to 10 p.m.; Sunday, 1 to 10 p.m.

### THOMAS FISHER RARE BOOK LIBRARY

### Caterpillars and Cathedrals: The Art of Wenceslaus Holler.

Prints and book illustrations by printmaker Wenceslaus Holler; curated by Anne Thackray. Hours: Monday to Friday, 9 a.m. to 5 p.m.

## MISCELLANY

### The Power of Promise.

Innis College alumnus Lesra Martin launches his memoir, *The Power of Promise*; proceeds from admission fees to Doctors Without Borders Haiti Relief Fund, from book sales, to the Innis College Scholarship Fund. Innis Town Hall. 6:30 to 8 p.m.

### Lunar New Year Celebration.

**Thursday, February 11**

Celebrate the Year of the Tiger with free food and activities. The Meeting Place, U of T Scarborough. 11 a.m. *International Student Centre, U of T Scarborough*

### Hong Kong Movers and Stayers.

**Wednesday, February 17**

Janet Salaff launches her new book *Hong Kong Movers and Stayers: Narratives of Family Migration*, the product of a slow research process, 20 years. Those wishing to join a dim sum catered lunch at the event, please RSVP Katherine Mitchell at asian.institute@utoronto.ca. Richard Charles Lee Canada-Hong Kong Library, eighth floor, 130 St. George St. 11:30 to 1 p.m.

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# WHY ENGAGE IN ASTRONOMY AND ASTROPHYSICS?

BY PETER MARTIN

**VISION: A global society aware of its infinitesimal place in the universe and yet confident in its aspirations and shared potential**

We live in stimulating times. Just 400 years after Galileo's phenomenal observations of the solar system bolstered the Copernican Revolution, we have pushed beyond resolving the Milky Way into stars to the observable edge of the universe. Recent discoveries of dark energy and dark matter indicate that stars, the traditional realm of astronomy, comprise a mere 0.4 per cent sliver in the energy/matter budget of the universe. The sun, one such star and supporter of life as we know it, will burn out in a finite time. From observations that the universe is expanding we are led to ponder the dawn of time, the epoch of inflation and creation of matter (mostly hydrogen); and equally staggering, the evidence for accelerating expansion suggests a feeble end to it all.

Because we live in the type of galaxy that, unlike others, still has a reservoir of interstellar gas and dust to form new stars, we are able to investigate at our cosmic front door each stage of the life cycle of stars, the current frontier being the stellar nurseries where stars are being formed through gravitational collapse of cold (~260 C) clouds of molecular gas.

Throughout their youth stars shine by energy generated by nuclear fusion of the primordial feedstock, hydrogen, and as they deplete their primary fuel resources and accelerate through maturity they synthesize all of the other building blocks of life, such as carbon, oxygen, silicon, magnesium and iron — the ultimate alchemy. While some of this life-promise is forever tied up in stellar remnants, including black holes, enough is returned through violent stellar death — supernovae explosions — to pollute the interstellar medium and take part in the next cycle of star, and planet, formation. Remarkably, we can witness this occurring in great detail.

Embellishing the cosmic history of these atomic building blocks of carbon-based life, we are finding evidence in the coldest reaches of interstellar space for the synthesis of molecules, abundant simple species like carbon monoxide, and rarer forms like ethylene glycol. During its residency in interstellar space, about 10 per cent of all carbon is tied up in large molecules called polycyclic aromatic hydrocarbons, also familiar among pollutants on Earth, and half of the rest is in soot particles. These are our cosmic roots. While the search is on for amino acids in the interstellar medium, they have already



been found and analysed in primitive meteorites that formed in the early stages of the solar system. A consistent preponderance there of left-handed amino acids, the same chiral version from which proteins on Earth happen to be made, is fascinatingly suggestive of a prebiotic cosmic lineage for life. However, current theories point to the advantages of a planetary environment for the biological universe to get a real foothold and perhaps, through emergent behaviour, flourish.

In the last decade we have discovered hundreds of planets orbiting other stars, confirming that “exoplanets” are a natural phenomenon frequently accompanying star formation. As we lay plans to find terrestrial planets in the temperate “habitable zone” near their parent stars and search for signatures of life, and in parallel seek evidence for life elsewhere in the solar system, we are on the cusp of an intellectual revolution, another mind-expanding change in perspective, a profoundly new “world” view.

**MISSION: Making sense of the complex universe through leading astrophysical research, providing a scientific context for contemplating life in the cosmos and a fertile ground on which to develop wisdom concerning the human condition.**

Astronomy thrives on fundamental intellectual challenges of stupendous sweep. Charged with the origin, evolution and fate of the universe and how it works at scales ranging from galaxy clusters to stars, from planets to elementary particles, it is the ultimate environmental study. By unlocking the mysteries of the universe, we aspire to go beyond myth to deliver insight. We aim for rigorous physical and mathematical models, at times increasingly complex and then by turns grandly unified and simplified. We continually challenge and even disrupt them

by new observational data, whether acquired deliberately or serendipitously. In contemplating the rise in complexity, there is plenty of scope for curiosity-driven research and opportunity to marvel at the subtleties.

Research on the fundamentals is the *sine qua non* but is for naught if not connected to teaching and outreach. Sharing the insight, indeed the beauty, is central to our mission. We are amazed by the astronomical images produced with advanced telescopes working across the electromagnetic spectrum. This is a wonderful modern manifestation of the sense of awe experienced by humans through the ages, alone outdoors in the dark, face up to the firmament. But our mission would be incomplete if we stopped there, failing to move beyond passive appreciation to intellectual engagement.

Aboard a tightly interconnected but hugely diverse and finite Earth, humanity faces tough questions, crises, with moral imperatives, such as lack of clean water, hunger, unequal distribution of wealth, uneven effects of global warming .... In blundering along, humanity might at times seem like the fanatical and hapless Wile E. Coyote. Yet the profound difference is made clear by the overarching astronomical perspective: we are not in some protective cocoon and immune to outside forces. Actions have consequences. There is no cosmic birthright. Nothing is forever. Contemplating the cosmos is exhilarating and uplifting, but it is also sobering to acknowledge that, within the Earth's microcosm, indeed our “lifeboat,” society might not be up to handling these global, complex and pressing problems, succumbing to a critical “ingenuity gap.” This obviously goes well beyond astronomy and astrophysics alone. But we can aim to develop the scientific context in which to discuss, perhaps even understand, life in the universe and how the particular instance that includes humans on Earth fits in. What would Spinoza think today?

There is a broad and age-old thirst for astronomy. In the UN Declaration of the International Year of Astronomy 2009 the “Assembly encouraged all Member States, the United Nations system and all other actors to take advantage of the Year to promote action at all levels to increase public awareness of the importance of astronomical sciences and promote widespread access to new knowledge and experiences of astronomical observation.” We responded on many fronts, including novel initiatives like our journalist-in-residence, and we aim to build on that legacy.

The new international Bhaumik Prize places great value on helping “society at large to better understand the mysteries of the Universe and reassess our place in it.” In addressing this thirst, exposure to the big ideas of astronomy and astrophysics and to the ways that they are investigated contributes more generally to scientific literacy and the public good. This is an excellent outcome, though a collateral benefit and not the prime motivation for engagement.

Advances in astronomy are intimately dependent on cutting-edge technology, whether the ever-more-capable instrumentation for giant telescopes and observatories or the high-performance computers increasingly implicated in data acquisition, reduction, modelling and simulation. It can even be documented that the exacting requirements of astronomical observations drive technology development with (usually unanticipated) lucrative spinoffs feeding back into the economy. Again this is a welcome outcome, but it would be a mistake to argue for support for astronomy based on a narrow inventions-to-market agenda. Astronomy is about ideas, not material things.

The flapping of a butterfly's wings might have unimagined effects but deliberate actions can have predictable outcomes. The University of Toronto is positioned at the very forefront in research and teaching relating to a sustainable Earth and awareness of the human condition. As a part of this intellectual ferment, astronomy and astrophysics matter. With a synergistic approach, the Department of Astronomy and Astrophysics, the Canadian Institute for Theoretical Astrophysics and the new Dunlap Institute are deeply engaged, our heads in the stars and yet fully connected in an affirmative way with the world. Dum vivimus, vivamus — while we live, let us live.

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